

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : Bernegger-Egli et al.

Serial No. : TBA; Divisional Application
of Serial Number 09/194,626

Examiner: TBA

Filed : November 13, 2001

Group Art Unit: TBA

For : PROCESS FOR THE PREPARATION OF AMINO ACID
ALCOHOLS AND DERIVATIVES THEREOF

EXPRESS MAIL NUMBER: EF321679975US

PRELIMINARY AMENDMENT

Hon. Commissioner of Patents and Trademarks
Washington, D.C. 20231

Dear Sirs:

In accordance with Rule 115 of the Rules of Practice, please consider the following amendments and remarks. Applicants submit concurrently herewith a Transmittal Letter in connection with the filing of a divisional application of 09/194,626.

IN THE CLAIMS:

Please cancel claims 1-15, without prejudice.

Please add the following new claims:

--16. (New) A microorganism that it is able to utilize cyclopentene derivatives
selected from the group of derivatives of the general formula:



in which R¹ denotes C₁-C₄ -alkyl, - C₁-C₄ alkoxy, aryl or aryloxy, as sole nitrogen source, as sole carbon source, as sole carbon source or as sole carbon and nitrogen source, and enzyme extracts therefrom.

17. (New) The microorganism and extract according to Claim 1, in which the microorganism is selected from the genera *Rhodococcus*, *Gordona*, *Arthrobacter*, *Alcaligenes*, *Agrobacterium/Rhizobium*, *Bacillus*, *Pseudomonas* or *Alcaligenes/ Bordetella*.

18. (New) The microorganism and extract according to Claim 16 or 17, in which the microorganisms are selected from the species *Alcaligenes/Bordetella* FB 188 (DSM 11172), *Rhodococcus erythropolis* CB 101 (DSM 10686), *Arthrobacter* sp. HSZ 5 (DSM 10328), *Rhodococcus* sp. FB 387 (DSM 11291), *Alcaligenes xylosoxydans* ssp. *denitrificans* HSZ 17 (DSM 10329), *Agrobacterium/Rhizobium* HSZ 30, *Bacillus simplex* K2, *Pseudomonas putida* K32 or *Gordona* sp. CB 100 (DSM 10687), and functionally equivalent variants and mutants thereof.

19. (New) An enzyme having N-acetylamino-alcohol hydrolase activity, obtainable from the microorganism of Claims 16 or 17 wherein said microorganism is able to hydrolyse cyclopentene derivatives selected from compounds of the general formula



in which R^1 denotes C_1 - C_4 -alkyl, C_1 - C_4 alkoxy, aryl or aryloxy, and functionally equivalent variants and mutants thereof.

20. (New) The enzyme according to Claim 19, having

- (a) a pH optimum of $pH\ 7.0 \pm 1.0$;
- (b) a temperature optimum between $25^\circ C$ and $30^\circ C$ at a pH of 7.0; and
- (c) a K_M for the substrate 1-acetylamino-4-hydroxy-methyl-2-cyclopentene of $22.5\ mM \pm 7.5\ mM$ ($30^\circ C$ 100 mM phosphate buffer), and functionally equivalent variants and mutants thereof.

21. (New) The enzyme according to Claim 19 or 20, further characterized by

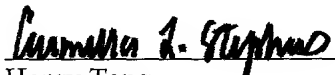
- (a) an N-terminal amino acid sequence of Thr-Glu-Gln-Asn-Leu-His-Trp-Leu-Ser-Ala-Thr-Glu-Met-Ala-Ala-Ser-Val-Ala-Ser-Asn; and
- (b) a molecular weight, determined by SDS-PAGE, of 50 kD, and functionally equivalent variants and mutants thereof.--

REMARKS

Entry of the foregoing remarks into the file of the above identified application is respectfully requested. The Applicants believe that the invention described and defined by the amended claims is patentable. An early allowance is earnestly sought.

Dated: November 14, 2001

Respectfully submitted,



Henry Tang
Patent Office Reg. No. 29,705
Attorney for Applicant(s)

Carmella L. Stephens
Patent Office Reg. No. 41,328

Agent for Applicant(s)
(212) 408-2539

BAKER BOTTS, L.L.P.
30 Rockefeller Plaza
New York, New York 10112

Enclosures

APPENDIX A

IN THE CLAIMS:

Please delete claims 1-15 and add the following new claims:

--16. (New) A microorganism that it is able to utilize cyclopentene derivatives selected from the group of derivatives of the general formula:



in which R¹ denotes C₁-C₄ -alkyl, - C₁-C₄ alkoxy, aryl or aryloxy, as sole nitrogen source, as sole carbon source, as sole carbon source or as sole carbon and nitrogen source, and enzyme extracts therefrom.

17. (New) The microorganism and extract according to Claim 1, in which the microorganism is selected from the genera *Rhodococcus*, *Gordona*, *Arthrobacter*, *Alcaligenes*, *Agrobacterium/Rhizobium*, *Bacillus*, *Pseudomonas* or *Alcaligenes/ Bordetella*.

18. (New) The microorganism and extract according to Claim 16 or 17, in which the microorganisms are selected from the species *Alcaligenes/Bordetella* FB 188 (DSM 11172), *Rhodococcus erythropolis* CB 101 (DSM 10686), *Arthrobacter sp.* HSZ 5 (DSM 10328), *Rhodococcus sp.* FB 387 (DSM 11291), *Alcaligenes xylosoxydans ssp. denitrificans* HSZ 17 (DSM 10329), *Agrobacterium/Rhizobium* HSZ 30, *Bacillus simplex* K2, *Pseudomonas putida*

K32 or *Gordona* sp. CB 100 (DSM 10687), and functionally equivalent variants and mutants thereof.

19. (New) An enzyme having N-acetylamino-alcohol hydrolase activity, obtainable from the microorganism of Claims 16 or 17 wherein said microorganism is able to hydrolyse cyclopentene derivatives selected from compounds of the general formula



in which R¹ denotes C₁-C₄-alkyl, -C₁-C₄ alkoxy, aryl or aryloxy, and functionally equivalent variants and mutants thereof.

20. (New) The enzyme according to Claim 19, having

- (a) a pH optimum of pH 7.0 ± 1.0;
- (b) a temperature optimum between 25°C and 30°C at a pH of 7.0; and
- (c) a KM for the substrate 1-acetylamino-4-hydroxy-methyl-2-cyclopentene of 22.5 mM ± 7.5 mM (30°C 100 mM phosphate buffer),
and functionally equivalent variants and mutants thereof.

21. (New) The enzyme according to Claim 19 or 20, further characterized by

- (a) an N-terminal amino acid sequence of Thr-Glu-Gln-Asn-Leu-His-Trp-Leu-Ser-Ala-Thr-Glu-Met-Ala-Ala-Ser-Val-Ala-Ser-Asn; and

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Figure 1

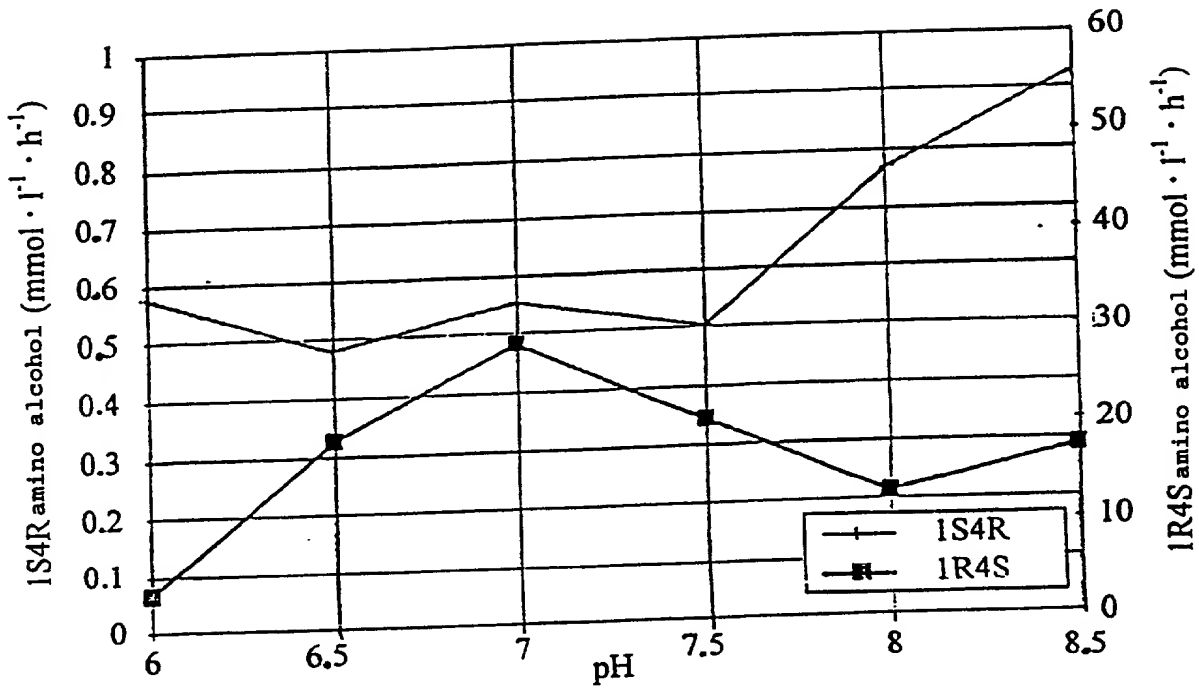


Figure 2

